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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,058	08/24/2001	Kari Pihl	944-003.090	1735

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EXAMINER

LE, DANH C

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/939,058

Applicant(s)

PIHL ET AL.

Examiner

DANH C LE

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/12/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 9-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, 4-6, 8, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watters (US 6,236,359) in view of Holt (6,677,895).

As to claim 1, Watters teaches a method of locating a mobile station in a telecommunications network having at least a first network operator having a plurality of first base stations (figure 10, 1030-1040 and col.19, line 31-col.22, line 35), said method using measurement information related to arrival of signals transmitted from the first and second base stations to the mobile station for obtaining the location thereof based on observed time difference, said method comprising the steps of:

acquiring the measurement information of at least one second base station (figure 11, 1125) and the measurement information of one or more first base stations when the measurement information of the first base stations alone is insufficient (figure 11, 1120) for location calculation; and calculating the location of the mobile station based on the acquired measurement information (col.5, line 54-col.6, line 54).

Watters fails to teach the second network operator having a plurality of base stations. Holt teaches the second network operator having a plurality of base stations (figure 1 and col.4, line 60-col.5, line 14). Therefore, it would have been obvious to one

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of ordinary skill in the art at the time the invention was made to provide the teaching of Holt into the system of Watters in order to improve the location accuracy.

As to claim 2, the combine of Watters and Holt teaches the method of claim 1, wherein the measurement information includes time reference information for obtaining real time difference in the arrival of transmitted signals and the time difference information is provided by at least one location measurement unit (Watters, col.3 line 52-col.4, line 8 and col.4, line 60-col.5, line 14).

As to claim 4, the combine of Watters teaches the method of claim 1, wherein the arrival of the transmitted signal is measured based on a broadcast common control channel frequency (Watters, col.16, lines 40-60).

As to claim 5, the combine of Watters teaches the method of claim 1, wherein the arrival of transmitted signal is measured based on a broadcast common control channel (BCCH) frequency, which is automatically tracked by the LMU (Watters, col.16, lines 40-60).

As to claim 6, the combine of Watters teaches the method of claim 1, wherein the location calculation is based on triangulation (Holt, col.3, lines 30-45).

As to claim 8, Watters teaches the method of claim 1, wherein the location calculation is based on a hyperbolic-type method (col.5, lines 35-54).

As to claim 15, the combine of Watters and Holt teaches the method of claim 1, wherein the telecommunications network is a GSM network and the observed time difference is E-OTD (Holt, col.8, lines 13-28).

2. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watters (US 6,236,359) and Holt (6,677,895) in view of Weill (US 6,246,361).

As to claims 3 and 7, the combine of Watters and Holt teaches the method of claim 1, the combine fails to teach measurement information includes geometric time-difference between the arrival time of signals transmitted from two of the first or second base stations and the location calculation is based on a circular-type method. Weill teaches measurement information includes geometric time-difference between the arrival time of signals transmitted from two of the first or second base stations (col. 11, lines 9-43) and the location calculation is based on a circular-type method (col.6, line 66-col.7, line 24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Weill into the system of Watters and Holt in order to improve the location accuracy.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watters (US 6,236,359) and Holt (6,677,895) in view of Yang (US 6,785,321).

As to claim 6, the combination of Watters and Holts teaches the method of claim 1, the combination of Watters and Holts fails to teach the location calculation is based on triangulation. Yang teaches the location calculation is based on triangulation (col.3, lines 35-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Yang into the system of Watters and Holt in order to provide the true location of the mobile as Yang suggested (col.3, lines 35-57).

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watters (US 6,236,359) and Holt (6,677,895) in view of Edge (US 6,597,916).

As to claim 16, the combine of Watters and Holt teaches the method of claim 1, the combine of Watters and Holt fails to teach the telecommunications network is a UTRAN network and the observed time difference is IPDL OTDOA. Edge teaches the telecommunications network is a UTRAN network and the observed time difference is IPDL OTDOA (col. 7, line 66-col.8, line 39). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Weill into the system of Watters and Holt in order to transform the existing systems to conform to an alternative system.

Allowable Subject Matter

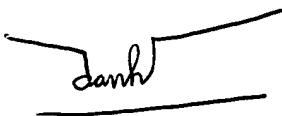
Claims 9-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 9-14, the teaching of above priors art either alone or in combine fails to teach the first network operator has at least one first serving mobile location center for providing assistance data of the first base stations, and the second operator has at least one second serving mobile location center for providing assistance data of the second base stations to the first serving mobile location center, allowing the first serving mobile location center to provide the assistance data of the first and second base stations to the mobile station, for the mobile station to acquire the measurement information based on the provided data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANH C LE whose telephone number is 703-306-0542. The examiner can normally be reached on 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM TROST can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



September 16, 2004

DANH CONG LE
PATENT EXAMINER